INDEX TO VOLUME 28 1993

Index to Authors and Contributors

ALIABADI, M. H. *Paper* Weight functions for curved fronts using BEM, 67
ALWAR, R. S. *Paper* Thermal stress analysis of the parting plane flange joint of an industrial steam turbine, 175

BAINS, R. *Paper* Weight functions for curved crack fronts using BEM, 67
BANDERA, C. *Paper* On the bursting mechanism in rotating rings, 153
BECKER, A. A. *Paper* Three benchmark examples for frictional contact modelling using finite element and boundary element methods, 293
BROWN, M. W. *Paper* A multiaxial stress–strain analysis for proportional cyclic loading, 125

CARPINTERI, A. *Paper* Surface flaw stress intensity factor computation with quarter-point elements, 117
CHEN, J. T. *Paper* Theoretical and experimental re-examination of a crack perpendicular to and terminating at the bimaterial interface, 53
CHEN, J. Y. *Paper* Optimum design of composite structures subjected to multiple displacement constraints, 135
CRAINE, R. E. *Paper* On the creep of ferritic weldments containing multiple zones in plates under uniaxial loading, 303

DAY, B. V. *Paper* Stress concentrations at an oblique hole in a thick flat plate under an arbitary in-plane biaxial loading, 223
DUNNE, F. P. E. *Paper* Experimental investigation of cyclic plasticity continuum damage evolution in an engineering component subjected to thermal loading, 263
DYSON, B. F. *Paper* The standard ridged uniaxial testpiece: computed accuracy of creep strain, 101

EGGELER, G. *Paper* A numerical study of parameters controlling stress redistribution in circular notched specimens during creep, 13
EL SAYED, M. M. *Paper* A new approach for the determination of residual stresses on biaxially stressed plates, 181
EL. SOALLY, E. E. *Paper* A new approach for the determination of residual stresses in biaxially stressed plates, 181

FENNER, R. T. *Papers* Design sensitivity analysis using the boundary element method, 283. Three benchmark examples for frictional contact modelling using finite element and boundary element methods, 293

GOWHARI-ANARAKI, A. R. *Technical note* Notch strain calculations for axisymmetric problems based on a local strain approach, 143. *Papers* Stress and strain range predictions for axisymmetric and two-dimensional components with stress concentrations and comparisons with notch stress–strain conversion rule estimates, 209. Elastic–plastic finite element analysis of hollow tubes with axially loaded axisymmetric internal projections, 187

HARDY, S. J. *Technical note* Notch strain calculations for axisymmetric problems based on a local strain approach, 143. *Papers* Elastic–plastic finite element analysis of hollow tubes with axially loaded axisymmetric internal projections, 187. Stress and strain range predictions for axisymmetric and two-dimensional components with stress concentrations and comparisons with notch stress–strain conversion rule estimates, 209
HAWKES, T. D. *Paper* On the creep of ferritic weldments containing multiple zones in plates under uniaxial loading, 303
HAYHURST, D. R. *Papers* The standard ridged uniaxial testpiece: computed accuracy of creep strain, 101. Experimental investigation of cyclic plasticity continuum damage evolution in an engineering component subjected to thermal loading, 263
HENDY, M. O. *Paper* A new approach for the determination of residual stresses in biaxially stressed plates, 181
HILLS, D. A. *Paper* The evaluation of stress intensity factors for plane cracks in residual stress fields, 145
HYDE, T. H. *Papers* Peak stresses near narrow rectangular notches, with rounded corners, subjected to tensile and shear loading, 5. Mixed-mode stress intensity factors for inclined cracks in round bars, 257

KRISTIANSEN, N. O. *Paper* An improved collapse axis on the R6 FAD for combined tension and bending loading, 23
KUJAWINSKA, M. *Paper* Spatial-carrier phase shifting method of fringe analysis for Moiré interferometry, 79

LI, W. J. *Paper* Optimum design of composite structures subjected to multiple displacement constraints, 135
LI, Y. P. *Technical note* Friction coefficient in fretting between titanium alloy and stainless steel, 63
LIN, J. *Paper* The standard ridged uniaxial testpiece: computed accuracy of creep strain, 101
LIN, Z. C. *Paper* A coupled thermo-elastic–plastic model with a modified direct iteration method in a cold extrusion process, 89

MABBUTT, Q. J. *Paper* Experimental investigation of cyclic plasticity continuum damage evolution in an engineering component subjected to thermal loading, 263
MILLER, K. J. *Paper* A multiaxial stress–strain analysis for proportional cyclic loading, 125
MOFFAT, D. G. *Paper* Single frequency seismic loading tests on pressurized branch pipe intersections machined from solid, 197
MORETON, D. N. *Papers* Single frequency seismic loading tests on pressurized branch pipe intersections machined from solid, 197. The ratchetting of a cylinder subjected to internal pressure and alternating axial deformation, 277

NAVARRO, A. *Paper* A multiaxial stress–strain analysis for proportional cyclic loading, 125
NICOLICH, M. *Paper* On the bursting mechanism in rotating rings, 153
NOWELL, D. *Paper* The evaluation of stress intensity factors for plane cracks in residual stress fields, 145

OLUKOKO, O. A. *Paper* Three benchmark examples for frictional contact modelling using finite element and boundary element methods, 293
OUYANG, N. *Technical note* Friction coefficient in fretting between titanium alloy and stainless steel, 63
OUYANG, Z. X. *Technical note* Friction coefficient in fretting between titanium alloy and stainless steel, 63

PAN, S. S. *Technical note* Friction coefficient in fretting between titanium alloy and stainless steel, 63
PAN, W. C. *Paper* A coupled thermo-elastic–plastic model with a modified direct iteration method in a cold extrusion process, 89
PANG, H. L. J. *Paper* Stress analysis of short weld toe cracks, 1
POON, C. Y. *Paper* Spatial-carrier phase shifting method of fringe analysis for Moiré interferometry, 79
PUTTERGILL, D. B. *Paper* Experimental investigation of cyclic plasticity continuum damage evolution in an engineering component subjected to thermal loading, 263

RAO, M. D. *Paper* On the error analysis of residual stress measurements by the hole-drilling method, 273
RAOOF, M. *Paper* Design of sheathed spiral strands against free bending fatigue at terminations, 163
ROOKE, D. P. *Paper* Weight functions for curved crack fronts using BEM, 67
RUIZ, C. *Paper* Spatial-carrier phase shifting method of fringe analysis for Moiré interferometry, 79

SHRIVASTAVA, S. *Paper* Large deformation finite element analysis of non-linear viscoelastic membranes with reference to thermoforming, 31
SRINIVASARAO, S. *Paper* Thermal stress analysis of the parting plane flange joint of an industrial stream turbine, 175
STANLEY, P. *Paper* Stress concentrations at an oblique hole in a thick flat plate under an arbitary in-plane biaxial loading, 223
STROZZI, A. *Paper* On the bursting mechanism in rotating rings, 153

TAFRESHI, A. *Paper* Design sensitivity analysis using the boundary element method, 283
TANG, J. *Paper* Large deformation finite element analysis of non-linear viscoelastic membranes with reference to thermoforming, 31

TURNER, C. E. *Paper* An improved collapse axis on the R6 FAD for combined tension and bending loading, 23

WANG, W. C. *Paper* Theoretical and experimental re-examination of a crack perpendicular to and terminating at the bimaterial interface, 53
WARRIOR, N. A. *Paper* Mixed-mode stress intensity factors for inclined cracks in round bars, 257
WIESNER, C. *Paper* A numerical study of parameters controlling stress distribution in circular notched specimens during creep, 13
WILKS, M. D. B. *Paper* The evaluation of stress intensity factors for plane cracks in residual stress fields, 145
WILLIAMS, J. G. *Papers* A review of the determination of energy release rates for strips in tension and bending. Part I – static solutions, 237. A review of the determination of energy release rates for strips in tension and bending. Part II – static solutions, 247

YAGHI, A. *Paper* Peak stresses near narrow rectangular notches, with rounded corners, subjected to tensile and shear loading, 5
YAHIAOUI, K. *Paper* Single frequency seismic loading tests on pressurized branch pipe intersections machined from solid, 197

ZHOU, H. *Paper* On the error analysis of residual stress measurements by the hole-drilling method, 273

Subject Index

A COUPLED THERMO-ELASTIC–PLASTIC MODEL WITH A MODIFIED DIRECT ITERATION METHOD IN A COLD EXTRUSION PROCESS, *Paper*, 89
A MULTIAXIAL STRESS–STRAIN ANALYSIS FOR PROPORTIONAL CYCLIC LOADING, *Paper*, 125
A NEW APPROACH FOR THE DETERMINATION OF RESIDUAL STRESSES IN BIAXIALLY STRESSED PLATES, *Paper*, 181
A NUMERICAL STUDY OF PARAMETERS CONTROLLING STRESS REDISTRIBUTION IN CIRCULAR NOTCHED SPECIMENS DURING CREEP, *Paper*, 13
A REVIEW OF THE DETERMINATION OF ENERGY RELEASE RATES FOR STRIPS IN TENSION AND BENDING. PART I – STATIC SOLUTIONS, *Paper*, 237
A REVIEW OF THE DETERMINATION OF ENERGY RELEASE RATES FOR STRIPS IN TENSION AND BENDING. PART II – DYNAMIC SOLUTIONS, *Paper*, 247
Accuracy of creep strain, 101
Alternating axial deformation, 277
AN IMPROVED COLLAPSE AXIS ON THE R6 FAD FOR COMBINED TENSION AND BENDING LOADING, *Paper*, 23
Analysis:
  finite element, 31, 187
  fringe, 79
  stress, 1
  stress–strain, 125
  thermal stress, 175
Approach for determination of residual stresses, 181
Arbitrary in-plane biaxial loading, 223
Axial deformation, 277
Axially loaded axisymmetric internal projections, 187
Axisymmetric and two-dimensional components, 209
Axisymmetric:
  internal projections, 187
  problems, 143

Bars, round, 257
BEM, 67
Benchmark examples, 293
Bending:
  fatigue, free, 163
  loading, 23
  strips in, 237, 247
Biaxial, loading, 223
Biaxially stressed plates, 181
Boundary element method, 283, 293
Branch pipe intersections, 197
Bursting mechanisms in rotating rings, 153

Circular notched specimens during creep, 13
Coefficient friction, 63
Cold extrusion process, 89
Collapse axis on the R6FAD, 23
Combined tension and bending loading, 23
Components, axisymmetric and two-dimensional, 209
Composite structures, design of, 135
Computed accuracy of creep strain, 101
Constraints, multiple displacement, 135
Contact modelling, frictional, 293
Continuum damage evolution, 263
Conversion rule estimates, 209
Corners, rounded 5
Crack:
  fronts, curved, 67
  perpendicular to and terminating at the bimaterial interface, 53
Cracks:
  inclined, 257
  plane, 145
  short weld toe, 1
Creep, 13
  of ferritic weldments, 303
  strain, 101
Curved crack fronts, 67
Cyclic:
  loading, proportional, 125
  plasticity continuum damage evolution, 263

Damage evolution, 263
Deformation:
  alternating axial, 277
  finite element analysis, 31
Design of composite structures, 135
DESIGN OF SHEATHED SPIRAL STRANDS AGAINST FREE BENDING FATIGUE AT TERMINATIONS, *Paper*, 163
DESIGN SENSITIVITY ANALYSIS USING THE BOUNDARY ELEMENT METHOD, *Paper*, 283
Determination of:
  energy release rates, 237, 247
  residual stresses in biaxially stressed plates, 181
Direct iteration method, modified, 89
Displacement constraints, 135
Dynamic solutions, 247

ELASTIC–PLASTIC FINITE ELEMENT ANALYSIS OF HOLLOW TUBES WITH AXIALLY LOADED AXISYMMETRIC INTERNAL PROJECTIONS, *Paper*, 187
Energy release rates for strips in tension and bending, 237, 247
Engineering component subjected to thermal loading, 263
Error analysis of residual stress measurements, 273
Evaluation of stress intensity factors, 145
EXPERIMENTAL INVESTIGATION OF CYCLIC PLASTICITY CONTINUUM DAMAGE EVOLUTION IN AN ENGINEERING COMPONENT SUBJECTED TO THERMAL LOADING, *Paper*, 263
Extrusion process, cold, 89

Fatigue, free bending, 163
Ferritic weldments, 303
Finite element:
  analysis, elastic–plastic, 187
  analysis, of hollow tubes, 187
  methods, 293
Flange joint, parting plane, 175
Flaw stress intensity factor, computation, 117
Free bending fatigue at terminations, 163
Fretting, 63
FRICTION COEFFICIENT IN FRETTING BETWEEN TITANIUM ALLOY AND STAINLESS STEEL, *Technical note*, 63
Frictional contact modelling, 293
Fringe analysis, 79

Hole:
  oblique, 223
  drilling method, 273
Hollow tubes, elastic–plastic finite element analysis of, 187

Inclined cracks in round bars, 257
Industrial steam turbine, 175
Intensity factor computation, 117
Internal pressure, 277
Intersections, branch pipe, 197
Iteration method, direct, 89

LARGE DEFORMATION FINITE ELEMENT ANALYSIS OF NON-LINEAR VISCOELASTIC MEMBRANES WITH REFERENCE TO THERMOFORMING, *Paper*, 31
Loading, 303
  biaxial, 223
  combined tension and bending, 23
  proportional cyclic, 125
  tensile and shear, 5
  thermal, 263
  tests, seismic, 197
Local strain approach, 143

Membranes, non-linear visco-elastic, 31
MIXED-MODE STRESS INTENSITY FACTORS FOR INCLINED CRACKS IN ROUND BARS, *Paper*, 257
Modelling, frictional contact, 293
Modified direct iteration method, 89
Moiré interferometry, 79
Multiple displacement constraints, 135
Multiple zones in plates under uniaxial loading, 303

Narrow rectangular notches with rounded corners, 5
Non-linear viscoelastic membranes, 31
NOTCH STRAIN CALCULATIONS FOR AXISYMMETRIC PROBLEMS BASED ON A LOCAL STRAIN APPROACH, *Technical note*, 143
Notch stress–strain conversion rule estimates, 209
Notched specimens, circular, 13
Notches, narrow rectangular, 5
Numerical study of parameters, 13

Oblique hole in a thick flat plate, 223
ON THE BURSTING MECHANISM IN ROTATING RINGS, *Paper*, 153
ON THE CREEP OF FERRITIC WELDMENTS CONTAINING MULTIPLE ZONES IN PLATES UNDER UNIAXIAL LOADING, *Paper*, 303
ON THE ERROR ANALYSIS OF RESIDUAL STRESS MEASUREMENTS BY THE HOLE-DRILLING METHOD, *Paper*, 273
OPTIMUM DESIGN OF COMPOSITE STRUCTURES SUBJECTED TO MULTIPLE DISPLACEMENT CONSTRAINTS, *Paper*, 135

Parameters controlling stress redistribution, 13
Parting plane flange joint, 175
PEAK STRESSES NEAR NARROW RECTANGULAR NOTCHES, WITH ROUNDED CORNERS, SUBJECTED TO TENSILE AND SHEAR LOADING, *Paper*, 5
Plane:
  cracks in residual stress fields, 145
  flange joint, 175
Plasticity, cyclic, 263
Plate:
  thick flat, 223
  biaxially stressed, 181
  under uniaxial loading, 303
Pressure, internal, 277
Pressurized branch pipe intersections machined from solid, 197
Projections, internal, 187
Proportional cyclic loading, 125

Quarter-point elements, 117

R6 FAD, 23
Range predictions, stress and strain, 209
Ratchetting of a cylinder, 277
Rectangular notches, 5
Residual:
  stress fields, 145
  stress measurements, 273
  stresses, determination of, 181
Re-examination of a crack, 53
Ridged uniaxial testpiece, 101
Rings, rotating, 153
Round bars, 257
Rounded corners, 5

Seismic loading tests, 197
Sensitivity analysis, 283
Shear loading, 5
Sheathed spiral strands, design of, 163
Shifting method, 79
Short weld toe cracks, 1
SINGLE FREQUENCY SEISMIC LOADING TESTS ON PRESSURIZED BRANCH PIPE INTERSECTIONS MACHINED FROM SOLID, *Paper*, 197
SPATIAL-CARRIER PHASE SHIFTING METHOD OF FRINGE ANALYSIS FOR MOIRÉ INTERFEROMETRY, *Paper*, 79
Spiral strands, sheathed, 163
Stainless steel, 63
Static solutions, 237, 247
Steam turbine, industrial, 175
Strain:
  approach, local, 143
  creep, 101
  calculations, 143
Strands, sheathed spiral, 163
Stress analysis, thermal, 175
STRESS ANALYSIS OF SHORT WELD TOE CRACKS, *Paper*, 1
STRESS AND STRAIN RANGE PREDICTIONS FOR AXISYMMETRIC AND TWO-DIMENSIONAL COMPONENTS WITH STRESS CONCENTRATIONS AND COMPARISONS WITH NOTCH STRESS–STRAIN RULE ESTIMATES, *Paper*, 209
STRESS CONCENTRATIONS AT AN OBLIQUE HOLE IN A THICK FLAT PLATE UNDER AN ARBITRARY IN-PLANE BIAXIAL LOADING, *Paper*, 223
Stress:
  concentrations, 209, 223
  fields, residual, 145
  intensity factor, surface flaw, 117
  intensity factors, 145, 257
  measurements, residual, 273
Stressed plates, 181Weld toe cracks, 1
Stresses:
  near narrow rectangular notches, 5
  residual, 181
  redistribution in circular notched specimens, 13
Stress–strain:
  analysis, 125
  conversion rule estimates, 209
Strips in tension and bending, 237, 247
Structures, composite, 135
Study of parameters, 13
SURFACE FLAW STRESS INTENSITY FACTOR COMPUTATION WITH QUARTER-POINT ELEMENTS, *Paper*, 117

Tensile loading, 5
Tension and bending loading, combined, 23
Terminations, free bending fatigue at, 163
Testpiece, uniaxial, 101
Tests, seismic loading, 197
THE EVALUATION OF STRESS INTENSITY FACTORS FOR PLANE CRACKS IN RESIDUAL STRESS FIELDS, *Paper*, 145
THE RATCHETTING OF A CYLINDER SUBJECTED TO INTERNAL PRESSURE AND ALTERNATING AXIAL DEFORMATION, *Paper*, 277
THE STANDARD RIDGED UNIAXIAL TESTPIECE: COMPUTED ACCURACY OF CREEP STRAIN, *Paper*, 101
THEORETICAL AND EXPERIMENTAL RE-EXAMINATION OF A CRACK PERPENDICULAR TO AND TERMINATING AT THE BIMATERIAL INTERFACE, *Paper*, 53
Thermal loading, 263
THERMAL STRESS ANALYSIS OF THE PARTING FLANGE JOINT OF AN INDUSTRIAL STEAM TURBINE, *Paper*, 175
Thermoforming, 31
Thermo-elastic–plastic model, 89
Thick flat plate, 223
THREE BENCHMARK EXAMPLES FOR FRICTIONAL CONTACT MODELLING USING FINITE ELEMENT AND BOUNDARY ELEMENT METHODS, *Paper*, 293
Titanium alloy, 63
Toe cracks, 1
Tubes, hollow, 187
Turbine, steam, 175
Two-dimensional components, 209

Uniaxial:
  loading, 303
  testpiece, standard ridged, 101

WEIGHT FUNCTIONS FOR CURVED CRACK FRONTS USING BEM, *Paper*, 67
Weld toe cracks, 1
Weldments, ferritic, 303

Zones in plates under uniaxial loading, 303